

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Continuation Application of:

Steven LEDERMAN

Serial No.

Filed: February 4, 2002

For: HIGHLY SOLUBLE NUTRITIONAL
COMPOSITIONS CONTAINING CALCIUM
(as amended)

Examiner:

Art Unit:

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Please enter the amendments identified below to the true copy of U.S.
Patent Application Serial No. 09/863,016 filed herewith.

IN THE TITLE:

Please amend the title as shown on the attached sheets containing a marked
up version and a clean amended version, to read "HIGHLY SOLUBLE
NUTRITIONAL COMPOSITIONS CONTAINING CALCIUM".

IN THE SPECIFICATION

Please amend the related application data beginning at page 1, line 6 of the
specification, as shown on the attached sheets containing a marked up
version and a clean amended version.

Please amend pages 26-28 of the specification, in accordance with the
marked up version attached hereto, amended as follows:

Page 26—the last paragraph of page 26 is deleted.

Page 27—all of page 27 is deleted.

Page 28—all except the last paragraph of page 28 is deleted.

IN THE CLAIMS

Please cancel claims 1-20.

Please add newly presented claims 21-60 attached hereto.

REMARKS

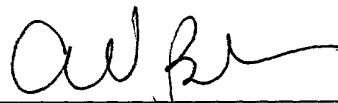
The title of the true copy of Serial No. 09/863,016 has been amended as attached hereto.

The "Related Application" data has been amended to reflect that the present application is a continuation of co-pending Serial No. 09/863,016.

In accordance with amendment sheets attached hereto, text on pages 26, 27 and 28 has been deleted by amendment herein. The remaining specification was present in both Serial No. 09/863,016 and Serial No. 09/265,035, and thus is entitled to the earliest priority date of March 9, 1999.

After cancellation of claims 1-20 of the true copy of Serial No. 09/863,016, and addition of newly presented claims 21-60, claims 21-60 are presented for prosecution herein. All of these claims are supported by the specification originally presented in the filing of March 9, 1999, from which priority is claimed herein.

Respectfully submitted,



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CLEAN COPY OF NEWLY PRESENTED CLAIMS 21-60

21. A method of making a powder for human or animal consumption having improved organoleptic qualities and improved rate of solubilization, comprising:

making an aqueous slurry containing calcium;

fully solubilizing said aqueous slurry in an aqueous acid solution to produce a solution containing solubilized calcium; and

drying said solution containing solubilized calcium to produce a dried, readily solubilizable product having an amorphous structure, wherein the product is adapted for human consumption in a form selected from the group consisting of

- (i) solubilized in an aqueous solution to produced solubilized calcium,
- (ii) a dried powder in granular form,
- (iii) a dried powder in tabular form,
- (iv) incorporated into a gum,
- (v) incorporated into pharmaceutical dose,
- (vi) incorporated into a beverage, and
- (vii) incorporated into a food.

22. The method of making a powder for human consumption according to claim 21, wherein the form of the product for human consumption selected is incorporated into a beverage and the beverage is selected from the group consisting of tea, fruit juice, carbonated drinks and sports drinks.

23. The method of making a powder for human or animal consumption according to claim 21, wherein the form of the product for human consumption selected is incorporated into a food and the food is selected from the group consisting of candy, gelatin products and puddings.

24. The method of making a powder for human or animal consumption according to claim 21, wherein the form of the product for human consumption selected is solubilized in an aqueous solution to produce solubilized calcium and the method further includes the steps of:

solubilizing the dried compound having an amorphous structure in water to produce a drink containing solubilized calcium; and
packaging the drink in a sealed container,
wherein the drink in the sealed container has a shelf life of at least 6 months with the calcium remaining in solution for said at least 6 months.

25. The method of making a powder for human or animal consumption according to claim 24, wherein the form of the product for human consumption selected is incorporated into a beverage and the beverage is selected from the group consisting of tea, fruit juice, carbonated drinks and sports drinks.

26. A method of making a calcium containing product for subsequent consumption, comprising:
making an aqueous slurry containing calcium;
acidifying said aqueous slurry to produce an aqueous solution containing solubilized calcium while attaining a temperature of at least 130°F;
and

drying said solution containing solubilized calcium to produce a dried product having improved organoleptic properties adapted for incorporation in edible products and for enhanced rate of solubilization when reconstituted in aqueous solutions.

27. The method of making a calcium containing product according to claim 26, wherein the aqueous solution containing solubilized calcium attains the temperature between 130°F and 190°F.

28. The method of making a calcium containing product according to claim 26, wherein the aqueous solution containing solubilized calcium attains the temperature of at least 170°F.

29. The method of making a calcium containing product according to claim 26, wherein the temperature of the aqueous solution containing solubilized calcium is attained by an exothermic reaction taking place during the acidification of the aqueous slurry.

30. The method of making a calcium containing product according to claim 26, wherein the temperature of the aqueous solution containing solubilized calcium is attained by external heat applied during the acidification of the aqueous slurry.

31. The method of making a calcium containing product according to claim 26, wherein drying said aqueous solution containing solubilized calcium comprises a drying method selected from the group consisting of freeze drying, spray drying, tray drying and vacuum drying.

32. The method of making a calcium containing product according to claim 26, wherein drying said aqueous solution containing solubilized calcium comprises a freeze drying.

33. The method of making a calcium containing product according to claim 26, further comprising the step of:
adding ingredients to the aqueous solution containing solubilized calcium selected from the group consisting of sweeteners, flavors and colors.

34. The method of making a calcium containing product according to claim 26, wherein acidifying said aqueous slurry comprises mixing with the slurry at least one acid selected from the group consisting of lactic acid, malic acid, acetic acid, phosphoric acid, citric acid and ascorbic acid.

35. The method of making a calcium containing product according to claim 26, wherein said dried product is substantially amorphous.

36. The method of making a calcium containing product according to claim 26, wherein said dried product has a substantially non-dendritic morphology.

37. The method of making a calcium containing product according to claim 26, wherein said dried product further comprises potassium.

38. The method of making a calcium containing product according to claim 26, wherein said dried product further comprises zinc.

39. The method of making a calcium containing product according to claim 26, wherein said dried product is fiber-free.

40. The method of making a calcium containing product according to claim 26, wherein said reconstituted aqueous products do not form precipitates comprising calcium for at least six months.

41. The product made by the method of making a calcium containing product according to claim 26.

42. A liquid supplement comprising:
water; and
solubilized calcium,
wherein the solubilized calcium is provided by the product of claim 41.

43. The liquid supplement of claim 42, wherein said supplement further contains a mineral selected from the group consisting of potassium, magnesium and zinc.

44. The liquid supplement of claim 42, wherein the supplement comprises at least one ingredient selected from the group consisting of sweeteners, flavors and colors.

45. The liquid supplement of claim 42, wherein the supplement contains at least 250 milligrams of solubilized calcium per 8 fluid ounces of the supplement.

46. The liquid supplement of 42 claim, wherein the solubilized calcium is operative for remaining in solution in the supplement without precipitating therefrom for at least 6 months.

47. A method of making a calcium containing product for subsequent consumption, comprising:
making an aqueous slurry containing calcium;
acidifying said aqueous slurry to produce an aqueous solution containing solubilized calcium while attaining a temperature of at least 130°F;
and

drying said solution containing solubilized calcium to produce a dried product having an at least partially amorphous structure improved.

48. The method of making a calcium containing product according to claim 47, wherein the aqueous solution containing solubilized calcium attains the temperature between 130°F and 190°F.

49. The method of making a calcium containing product according to claim 47, wherein the aqueous solution containing solubilized calcium attains the temperature of at least 170°F.

50. The method of making a calcium containing product according to claim 47, wherein the temperature of the aqueous solution containing solubilized calcium is attained by an exothermic reaction taking place during the acidification of the aqueous slurry.

51. The method of making a calcium containing product according to claim 47, wherein the temperature of the aqueous solution containing solubilized calcium is attained by external heat applied during the acidification of the aqueous slurry.

52. The method of making a calcium containing product according to claim 47, wherein drying said aqueous solution containing solubilized calcium comprises a drying method selected from the group consisting of freeze drying, spray drying, tray drying and vacuum drying.

53. The method of making a calcium containing product according to claim 47, wherein drying said aqueous solution containing solubilized calcium comprises a freeze drying.

54. The method of making a calcium containing product according to claim 47, further comprising the step of:

adding ingredients to the aqueous solution containing solubilized calcium selected from the group consisting of sweeteners, flavors and colors.

55. The method of making a calcium containing product according to claim 47, wherein acidifying said aqueous slurry comprises mixing with the

slurry at least one acid selected from the group consisting of lactic acid, malic acid, acetic acid, phosphoric acid, citric acid and ascorbic acid.

56. The method of making a calcium containing product according to claim 47, wherein said dried product has a substantially non-dendritic morphology.

57. The product made by the method of making a calcium containing product comprising the steps of:

making an aqueous slurry containing calcium;

acidifying said aqueous slurry to produce an aqueous solution containing solubilized calcium while attaining a temperature of at least 130°F; and

drying said solution containing solubilized calcium to produce a dried product having an at least partially amorphous structure improved.

58. The product of claim 57, wherein the product further includes one or more sugars, sugar-substitutes or mixtures thereof.

59. A liquid supplement comprising water and solubilized calcium, wherein the solubilized calcium is provided by a product manufactured according to a method comprising the steps of:

making an aqueous slurry containing calcium;

acidifying said aqueous slurry to produce an aqueous solution containing solubilized calcium while attaining a temperature of at least 130°F; and

drying said solution containing solubilized calcium to produce a dried product having an at least partially amorphous structure improved.

60. The liquid supplement of claim 59, wherein the liquid supplement further includes at least one sweetener.

CLEAN COPY OF AMENDED TITLE

HIGHLY SOLUBLE NUTRITIONAL COMPOSITIONS CONTAINING CALCIUM

204020-51529001
10067515-020402

MARKED UP COPY OF AMENDED TITLE

HIGHLY SOLUBLE [AND STABLE] NUTRITIONAL COMPOSITIONS
CONTAINING CALCIUM [AND MAGNESIUM]

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CLEAN COPY OF PAGE 1—RELATED APPLICATION

The present invention is a continuation of co-pending U.S. Patent Application Serial No. 09/863,016, filed May 21, 2001 and entitled HIGHLY SOLUBLE AND STABLE MINERAL SUPPLEMENTS CONTAINING CALCIUM AND MAGNESIUM, which was a continuation-in-part application of U.S. Patent Application Serial No. 9/265,035, filed March 9, 1999, entitled "Highly Soluble and Stable Mineral Supplements Containing Calcium and Magnesium", which issued May 22, 2001, as U.S. Patent No. 6,235,322.

MARKED UP COPY OF AMENDED PAGE 1—RELATED APPLICATION

The present invention is a continuation of co-pending U.S. Patent Application Serial No. 09/863,016, filed May 21, 2001 and entitled HIGHLY SOLUBLE AND STABLE MINERAL SUPPLEMENTS CONTAINING CALCIUM AND MAGNESIUM, which was a continuation-in-part application of [co-pending] U.S. Patent Application Serial No. 9/265,035, filed March 9, 1999, entitled "Highly Soluble and Stable Mineral Supplements Containing Calcium and Magnesium", [to issue] which issued May 22, 2001, as U.S. Patent No. 6,235,322.

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